

10. Is it possible to add 2 rational numbers and get a sum that is less than both the numbers you added? Explain your reasoning.

11. Determine each sum.

a)  $-\frac{2}{3} + \frac{1}{2}$       b)  $\frac{4}{5} + \left(-\frac{1}{3}\right)$   
 c)  $-\frac{11}{4} + \left(-\frac{6}{5}\right)$       d)  $\frac{13}{5} + \frac{9}{2}$   
 e)  $-2\frac{1}{3} + \left(-1\frac{3}{4}\right)$       f)  $\frac{9}{5} + \left(-\frac{17}{6}\right)$   
 g)  $-3\frac{3}{4} + 4\frac{5}{8}$       h)  $1\frac{5}{6} + \left(-5\frac{2}{3}\right)$   
 i)  $-3\frac{1}{4} + \left(-2\frac{1}{6}\right)$       j)  $2\frac{3}{5} + \left(-1\frac{7}{8}\right)$

12. **Assessment Focus** What can you say about the sign of the sum of 2 rational numbers in each case? Include examples and explain your reasoning.

- a) Both rational numbers are positive.  
 b) Both rational numbers are negative.  
 c) One rational number is positive and one rational number is negative.

17. In January, Keith earned \$45.50 babysitting and \$22.25 shovelling snow. He spent \$15.77 on a CD, and \$33.10 on a computer game.

- a) Write each amount above as a rational number. Justify your choice of sign for each number.  
 b) Write an addition statement that represents Keith's balance at the end of January.  
 c) What is Keith's balance?

18. The table shows the money earned and spent by Lucille in the first six months of running her new business, Lucille's Café.

Item	Income	Expense
New tables and chairs		\$545.50
New stove		\$978.44
Profit on food	\$2115.70	
Repair of roof		\$888.00
Profit on coffee	\$2570.40	
Salary of part-time cook		\$2540.20

Did Lucille's business make a profit in the first six months? Use rational numbers in your explanation.

20. Determine the missing rational number in each addition statement. What strategies did you use?

a)  $-\frac{3}{4} + \square = \frac{7}{8}$

b)  $\square + \frac{4}{5} = -\frac{2}{3}$

c)  $\square + \left(-\frac{5}{2}\right) = 3\frac{1}{8}$

d)  $\frac{7}{3} + \square = -\frac{5}{4}$

21. Determine the range of numbers that makes this sentence true.

Explain your reasoning.

$$7.9 + \square \leq 11.2$$

22. Use any four of the rational numbers:

$-1, -2, -3, -4, 1, 2, 3, 4$

in the boxes below to make an expression with the greatest sum less than 0.

Explain how you know you have determined the greatest sum less than 0.

$$\frac{\square}{\square} + \frac{\square}{\square}$$